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BY HAND DELIVERY

Ms. Magalie Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

**Re: Sensormatic Electronics Corporation's Reply
Comments in Response to Notice of Inquiry, ET Docket
No. 98-80, FCC 98-102, Released June 8, 1998**

Dear Ms. Salas:

On behalf of Sensormatic Electronics Corporation ("Sensormatic"), transmitted herewith is an original and nine copies of Reply Comments in the above-referenced docket. The statement of Donald J. Umbdenstock of Sensormatic contains a facsimile signature. A statement containing the original signature of Donald J. Umbdenstock will be filed at the Commission later this week.

Please date-stamp the return copy and return it to the courier delivering this package.

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LEVENTHAL, SENTER & LERMAN P.L.L.C.

Office of the Secretary
September 23, 1998
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If there are any questions regarding this matter, please feel free to contact the undersigned.

Sincerely,

A handwritten signature in cursive script, appearing to read "Christopher Sova".

Christopher Sova

Federal Communications Commission

WASHINGTON, D.C. 20554

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In the Matter of)

NOTICE OF INQUIRY)

ET Docket No. 98-80

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

1998 Biennial Regulatory Review -
 Conducted Emissions Limits Below 30 MHz
 for Equipment Regulated Under Parts 15
 and 18 of the Commission's Rules)

To: The Commission

**REPLY COMMENTS OF
 SENSORMATIC ELECTRONICS CORPORATION**

Sensormatic Electronics Corporation ("Sensormatic"), by its attorneys, hereby submits the following reply comments in the above-captioned proceeding. Sensormatic is a leading designer, manufacturer, and marketer of commercial electronic security, sensing and tracking systems for retail stores.

In its comments, General Electric Company ("GE"), a major manufacturer, distributor, and seller of a wide variety of RF lighting devices, stated that there is no justification for conducted emission limits in the range below 450 kHz because "there has never been a history of interference below 450 kHz." GE Comments at 8. GE further states that, in commercial applications, it is typically not expected that users of RF lighting devices in commercial settings "expect to receive services in the less than 30 MHz range." GE Comments at 6.

Attached hereto is the statement of Donald J. Umbdenstock, Project Leader for Compliance Engineering of Sensormatic (the "Sensormatic Statement"), which addresses several

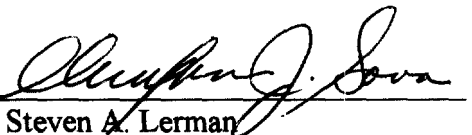
of the issues raised in the GE comments. As Mr. Umbdenstock makes clear, a number of security systems have transmitters operating in the range of less than 30 MHz, including some that operate in the range of 25 kHz through 100 kHz, and Sensormatic's tests indicate that RF lighting systems do cause interference and degradation to security systems.

RF lighting systems in commercial environments are becoming more and more common, and as a result, new unregulated interference sources are being introduced which jeopardize the effectiveness of the extensive base of security systems that are already in place.

For the reasons set forth above and in the Sensormatic Statement, Sensormatic respectfully suggests that the Commission consider regulating the conducted emissions from commercial and industrial products which produce significant emissions above 9 kHz.

Respectfully submitted,

**SENSORMATIC ELECTRONICS
CORPORATION**

By: 
Steven A. Lerman
Dennis P. Corbett
Christopher J. Sova

Leventhal, Senter & Lerman
2000 K Street, NW
Suite 600
Washington, DC 20006

Dated: September 23, 1998

Its Attorneys

ET Docket No 98-80

**1998 Biennial Regulatory Review --
Conducted Emissions Limits Below 30 MHz
for Equipment Regulated Under Parts 15
and 18 of the Commission's Rules.**

Reply Comments, Sensormatic Electronics Corporation

The undersigned has reviewed comments filed in the above-captioned proceeding, particularly those filed on July 22, 1998 by General Electric Company ("GE"), and offers the following responsive comments.

According to GE, some RF lighting products operate over the frequency range of 25 kHz through 100 kHz. GE Comments at 3. GE further states that "in commercial applications, it is not typically expected that users would expect to receive services in the less than 30 MHz range". GE Comments at 6. GE also states that "lighting fixtures in commercial installations are usually grounded and in metal housings, which provides [an] attenuation mechanism for the RF lighting devices themselves". GE Comments at 6. Finally, GE claims that there "has never been a history of interference below 450 kHz", concluding that there is no justification for additional regulations. GE Comments at 8.

A number of security systems have transmitters operating in the frequency range of less than 30 MHz, including in the range of 25 kHz through 100 kHz. Sensormatic has set up RF lighting systems in our product development lab and established that RF lighting systems cause interference and degradation to security systems. We have also measured the effects of RF lighting systems in shopping malls and established that interference occurs at distances up to 30 meters from the lighting source -- not likely to

be directly from the radiating source of the bulb and driving circuit. The interference occurs when the RF lighting systems operate on the same frequency or generate harmonics on the same frequency as the security system's operating frequency. If the Commission would like further information regarding the testing, it should feel free to contact the undersigned.

RF lighting systems are becoming more common due to improved energy efficiencies; at the same time security systems have become common place -- with hundreds of thousands of security systems installed. The installed base of security systems is in jeopardy due to new unregulated interference sources being introduced. Therefore, conducted emission limits for RF lighting systems for frequencies below 450 kHz should be considered.

The RF lighting systems also interfere with security systems directly from radiated emissions from the magnetic loop formed by the bulb and driving circuit. Although this problem of direct radiation is not within the explicit scope of this inquiry, it is relevant to the extent that manufacturers of RF lighting systems claim that their products cause no interference in this frequency range.

GE commented on the benefit of metallic enclosures associated with RF lighting. It is a benefit that RF lighting is typically enclosed in metal enclosures, but unless it is mandatory, it cannot be identified as a means of further attenuation of offending signals. If it is not a requirement, a manufacturer is not obligated to use this approach. There is nothing to prevent a manufacturer from later using a non-metallic enclosure. Thus the argument of attenuated emissions is negated.

In addition to GE's comments, Silicon Graphics, Inc., identified a 12 Volt halogen lamp bulb and an "electronic" transformer that caused interference at 51 kHz. Silicon Graphics Comments at 1. This is

further indication that lighting devices operating below 450 kHz do cause significant interference.

When such a product happens to operate on a security system's operating frequency, degradation will occur.

As recognized in the NOI and various comments, building wiring can act as an effective radiator of RF energy. The source can originate as an unintended conducted emission such as RF lighting or as an intended conducted emission such as power line carrier. The end result is the same -- an emission is connected to an "antenna" (the building wiring) and creates radiated interference, degrading system performance. Again, Sensormatic urges the Commission to consider conducted emission limits for commercial and industrial products with limits set for frequencies below 450 kHz, perhaps as a Part 18 amendment. This band should be applied to any product that produces significant emissions in the frequency range of 10 kHz to 30 MHz, whether it be for RF lighting devices, the Variable Frequency Drives identified in Sensormatic's original comments, power line carrier systems, or any other commercial product with significant emissions above 9 kHz.



Donald J. Umbdenstock

Project Leader, Corporate Compliance
Sensormatic Electronics Corporation

September 22, 1998